

REMARKS/ARGUMENTS

Claims 1-3 and 34 are pending herein. Claim 1 has been amended hereby to clarify that the claimed ceramic substrate is self-supporting, and that the laminated sintered body of the claimed electrochemical cell includes a single ceramic dense body laminated on the ceramic substrate and a single electrode layer laminated on the single ceramic dense body. Applicants respectfully submit that support for rewritten claim 1 can be found, for example, in Figs. 3(a) and 3(b), and that no new matter has been added.

Examiner Crepeau is thanked for courtesies extended to Applicants' undersigned representative during a telephonic interview on June 4, 2007, the substance of which is incorporated herein.

Applicants appreciate Examiner Crepeau indicating that claim 34 is allowed. Applicants respectfully submit that in addition to claim 34, all claims pending herein are in condition for allowance, and respectfully request that the PTO issue a Notice of Allowance for this application in due course.

1. Claims 1-3 were rejected under §103(a) over Nishi in view of Tannenberger. To the extent that the PTO might attempt to assert this rejection against rewritten claim 1, it is respectfully traversed.

Rewritten claim 1 recites an electrochemical cell comprising a laminated sintered body having a helium leakage rate of 10^{-6} Pa·m³/s or lower. The laminated sintered body includes a self-supporting ceramic substrate comprising a ceramic porous body having a thickness of 300 μ m or larger, which constitutes one of an anode and a cathode. The ceramic porous body comprises a material selected from the group consisting of a lanthanum-containing perovskite-type complex oxide, platinum-zirconia cermet, palladium-zirconia cermet, ruthenium-zirconia cermet, nickel-zirconia cermet, platinum-cerium oxide cermet, palladium-cerium oxide cermet,

ruthenium-cerium oxide cermet and nickel-cerium oxide cermet. The laminated sintered body also includes a single ceramic dense body having a thickness of 25 μm or smaller directly laminated to contact an entire main surface of the ceramic substrate. The ceramic dense body comprises a material selected from the group consisting of yttria-stabilized zirconia, yttria partially-stabilized zirconia and cerium oxide. The laminated sintered body further includes a single electrode layer, which constitutes the other one of an anode and a cathode, and which is directly laminated on the ceramic dense body so that the ceramic dense body contacts an entire main surface of the electrode layer. The electrode layer comprises a material selected from the group consisting of a lanthanum-containing perovskite-type complex oxide, platinum-zirconia cermet, palladium-zirconia cermet, ruthenium-zirconia cermet, nickel-zirconia cermet, platinum-cerium oxide cermet, palladium-cerium oxide cermet, ruthenium-cerium oxide cermet and nickel-cerium oxide cermet.

During the telephonic interview, Examiner Crepeau clarified that it was his position that either the fuel electrode 12 or the air electrode 15 shown in Nishi's Fig. 44(b) could be considered to correspond to the claimed ceramic substrate. Applicants respectfully submit, however, that the electrolyte layer 13 in Nishi's Fig. 44(b) does not contact an *entire* main surface of the fuel electrode 12 or the air electrode 15, as required in claim 1. Accordingly, Applicants respectfully submit that neither the fuel electrode 12 nor the air electrode 15 correspond to the claimed ceramic substrate.

In addition, Applicants respectfully submit that neither the fuel electrode 12 nor the air electrode 15 in Nishi constitute a self-supporting substrate on which subsequent layers are laminated. In fact, Applicants respectfully submit that the only self-supporting structure in Nishi's Fig. 44(b) is the substrate 11 itself. The substrate 11, however, does not correspond to the claimed self-supporting ceramic substrate at least because it does not serve as an anode or cathode, as claimed, and further, because while the fuel electrode 12 is laminated on the substrate 11, only a small portion of the main surface of the substrate 11 is actually contacted by the electrolyte layer 13. The

electrolyte layer 13 simply does not contact the entire main surface of the substrate 11, as claimed. During the telephonic interview, Examiner Crepeau agreed that Nishi's electrodes 12, 15 are not self-supporting structures.

Moreover, Applicants respectfully submit that Nishi fails to disclose or suggest an electrochemical cell that includes a single (i.e., only one) ceramic dense body laminated on the self-supporting substrate and a single (i.e., only one) electrode layer laminated on the single ceramic dense body in the claimed manner.

During the telephonic interview, Examiner Crepeau agreed that while Nishi relates to a multiple cell structure that includes a plurality of electrolyte and electrode layers, Nishi does not disclose or suggest a cell including a *single* ceramic dense layer and a *single* electrode layer. In view of the above, Examiner Crepeau indicated that he would favorably reconsider claim 1, as amended above, so long as the term *single* is clearly defined in the remarks of this Amendment. As mentioned above, the term *single* means "only one," with respect to the ceramic dense layer and the electrode layer which are laminated on the claimed self-supporting ceramic substrate.

For at least the foregoing reasons, Applicants respectfully submit that Nishi does not disclose or suggest each and every feature recited in rewritten claim 1 and that Tannenberger fails to overcome at least the above deficiencies of Nishi. Accordingly, Applicants respectfully submit that rewritten claim 1, and all claims depending directly or indirectly therefrom, define patentable subject matter over the applied references, and respectfully request that the above rejection be reconsidered and withdrawn.

If Examiner Crepeau believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, he herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

June 11, 2007

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